

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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OUR WICKED LADY LLC,

(d/b/a “Our Wicked Lady”), *et al.*,

Plaintiffs,

-against-

**DECLARATION OF
DR. JAY VARMA**

1:21-cv-165 (DLC)

ANDREW CUOMO, in his official capacity as Governor of the
State of New York; **THE STATE OF NEW YORK; BILL DE
BLASIO** in his official capacity as Mayor of New York City;
and **THE CITY OF NEW YORK**,

Defendants.
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I, JAY VARMA, MD, declare under the penalties of perjury, pursuant to 28
U.S.C. § 1746, as follows:

1. I am presently employed as Mayor Bill de Blasio’s Senior Advisor for
Public Health.

2. After graduating magna cum laude with highest honors from Harvard, I
completed medical school, internal medicine residency, and chief residency at the University of
California, San Diego School of Medicine. In 2001, I joined the Center for Disease Control and
Prevention (“CDC”) Epidemic Intelligence Service, working on foodborne diseases. From 2003
to 2008, I served in Bangkok, Thailand, directing CDC’s TB programs and research in Southeast
Asia. From 2008 to 2011, I served in Beijing, China, directing CDC’s International Emerging
Infections Program which assisted the Chinese government on infectious diseases. From 2011 to
2017, I served as the Deputy Commissioner for Disease Control at the New York City
Department of Health and Mental Hygiene. From 2017 to April 2020, I served as the Senior
Advisor to Africa Centres for Disease Control and Prevention at the African Union in Addis

Ababa, Ethiopia. I guided the creation of Africa CDC, developing its strategy and supporting implementation of its public health programs, and authored the Africa CDC's continent-wide strategy for COVID-19 in Africa and critical policy documents on COVID-19 control measures. I have authored 138 scientific manuscripts, six essays, and one book. A Captain in the United States Public Health Service, I have been recognized as the U.S. Public Health Service Physician Researcher of the Year (2010) and Physician Leader of the Year (2017), and have received the two highest awards in the U.S. Public Health Service (Distinguished Service Medal, 2011; Meritorious Service Medal, 2018).

3. I submit this affidavit in support of City defendants' opposition to plaintiffs' motion for a preliminary injunction. I am familiar with the contents and requirements of all City and State Executive Orders ("E.O.s") concerning restrictions on indoor dining, indoor group fitness classes, gatherings, and face coverings, among other COVID-19 mitigation measures.

BACKGROUND ON COVID-19

4. COVID-19 is a new, potentially severe, and sometimes fatal viral infection. The COVID-19 pandemic is unprecedented in its scope, affecting nearly every country in the world. It is a prodigious public health concern in its devastating health outcomes, both direct and indirect.

5. Our understanding of COVID-19 symptoms, transmission, effects on the body, risk factors for severe disease and treatment is evolving as we gain more experience with the disease and has expanded considerably since we first learned of the virus in late December 2019.

6. People with COVID-19 have reported a wide range of symptoms, ranging from mild, such as cough, sore throat and low-grade fever, to more serious, such as trouble

breathing. Because many of the symptoms are similar to other common illnesses, it can be difficult for an ill person to know whether they have COVID-19 or another sickness such as a cold or the flu. Some people have no symptoms at all. In its most severe form, COVID-19 causes pneumonia, organ failure, and other complications that are sometimes fatal. Older adults, and people of any age, including children, who have serious underlying medical conditions are at higher risk for severe or fatal illness from COVID-19.

7. While there is still much to be learned about COVID-19, based on the information available, the virus most commonly spreads to people who are in close contact (within about six feet) of a person who has COVID-19. "Close contact," as defined by New York State, is being within six feet for at least 10 minutes. The virus is spread mainly by droplets produced by someone with the infection coughing, sneezing, singing, or talking. The virus can also be spread if someone touches a surface that has the virus on it, and then touches their eyes, nose or mouth with unwashed hands, though this is thought to be less common than droplet transmission for the virus to spread. There is significant evidence that people can transmit infection whether or not they have symptoms. Based on current knowledge, the time between virus exposure and the onset of illness (the incubation period) can range from 2–14 days.

8. The reproduction number (called R) is the average number of people each person infected with the virus will spread the virus to. It varies considerably by jurisdiction and is dependent on a variety of factors such as the age and health of the population, the controls put in place to stop transmission, and available treatment.

9. Substantial scientific evidence indicates that transmission to multiple people, also known as "clusters" or "outbreaks," is more likely to occur in settings that are indoors and involve large numbers of people in close proximity.

10. The virus that causes COVID-19 has not been eliminated from the United States or anywhere in the world, because there is no medication that can cure infection and vaccines are not widely available to the entire population. Given how the virus is transmitted, and especially because it can be transmitted by people who do not know they are infected, the best way to prevent transmission currently is for people to keep at least six feet apart, wear a face covering to contain droplets, practice good hand hygiene to keep hands clean, and stay home when experiencing any COVID-19 symptoms. Many people remain infected in the United States and the rest of the world, creating a large pool of infected people that can infect others.

11. Additionally, all viruses, including COVID-19, mutate because of errors in the process of replicating their genetic code. Some mutations can change the characteristics of a virus including its contagiousness (how easily one person spreads infection to another person) and its virulence (how severe of an illness it causes). New strains of SARS-CoV-2 (the COVID-19 virus) have been identified in the U.K., South Africa, and other countries. Some of these strains have been demonstrated in to be more contagious – that is, it increases the spread of infection by up to 70% compared to other strains of the virus – and possibly more deadly.

12. The U.K. and South Africa strains have now been detected in persons from New York City. Because testing for this strain requires a technology (genomic sequencing) that is technically very difficult, only a sample of specimens are actually tested for the UK strain or other mutations.

13. Viruses only mutate when they are replicating in a human (or other animal) host. Therefore, the only way to prevent the emergence and spread of the UK strain and other potentially more contagious strains of COVID-19 is to reduce the number of humans infected.

COVID-19 TRANSMISSION IN NYC

14. COVID-19 is currently spreading throughout the United States in many affected geographic areas, including the New York metropolitan region. There are currently significant outbreaks of COVID-19 in the United States, with health officials having reported over 27 million infections and over 500,000 deaths, as of February 23, 2021.

15. In the spring of 2020, New York City was the epicenter of the COVID-19 pandemic in the U.S. and had one of the largest reported disease burdens in the world.

16. New York City was experiencing widespread community transmission at least as early as mid-March 2020. Beginning in mid-April, New York City did a remarkable job of reducing the incidence of COVID-19, commonly referred to as “flattening the curve.” On August 10, 2020, New York City had its lowest daily average of new cases (233) since the epidemic's peak.¹ This decrease in transmission supported the issuance of State E.O. 202.61 on September 9, 2020 allowing for the re-opening of indoor dining in New York City at 25% of maximum occupancy on September 30, 2020.

17. The incidence of COVID-19 again began to increase in New York City in September. On September 24, 2020, the daily average for new cases was 352, a 50% increase in cases over the previous 45 days. It then took only 12 days to increase another 50% to 527 cases on October 6th. The daily average for new cases increased substantially after the Thanksgiving holiday, increased more slowly in December, then surged again after the Christmas and New Year's holidays. On January 5th, 2021 the daily average for new cases was 4,986, a more than 14-fold increase since September 24th.

¹ The data cited in paragraphs 8 through 14 is available at <https://www1.nyc.gov/site/doh/covid/covid-19-data.page#epicurve>; <https://www1.nyc.gov/site/doh/covid/covid-19-data-trends.page>

18. As of February 17, 2021, in New York City there were 678,404 cases of COVID-19 a total of 28,493 COVID-19-related deaths, and 85,988 hospitalizations. See COVID-19 Data Page by the NYC Department of Health and Mental Hygiene, available at <https://www1.nyc.gov/site/doh/covid/covid-19-data.page>.

19. The positivity rate is an important indicator of the degree of community spread. The positivity rate measures the percentage of COVID-19 laboratory tests that have a positive result. The average daily positivity rate in New York City (over a 7-day rolling average) was 1.2% on August 10, 2020. There was a substantial rise in positivity over the November and December holidays. On January 6, 2021, the positivity rate was 9.18%. As of February 17, 2021, the positivity rate in New York City was 7.04%.

20. One of the main concerns with a rise in the spread of COVID-19 is that the hospital system not become overwhelmed as it was in the spring of 2020 in New York City. At that time, there was a shortage of medical equipment, personal protective equipment, intensive Care Unit beds, and medical personnel. There is a particular concern now about a potential shortage of medical personnel. Last spring, when New York City was one of a few areas in the nation that was experiencing a large number of COVID-19 cases, volunteer medical professionals came to New York City from all over the country to provide desperately needed medical services.

21. However, that is not possible now, when the nation is engulfed in a COVID-19 crisis and many areas already throughout the nation are experiencing overwhelmed hospital systems and medical personnel. Nationally, cases of COVID-19 began increasing in September and recently set daily records for the number of new cases, hospitalizations, and deaths. As of January 10, 2021, the national seven-day moving average was 244,702 new cases

per day, and 3,214 deaths per day.² On January 10, 2020, there were 129,223 people hospitalized for COVID-19.³ For the week of February 5, 2021, 78,166 people were hospitalized for COVID-19.

CLOSURES AND RESTRICTIONS IN NEW YORK

22. As has been seen throughout the pandemic, and as is set forth above, the incidence of the virus in New York City (and in the rest of the nation) keeps changing, which requires immediate and flexible responses from public officials. As more is learned about transmission of the virus, and the best ways to reduce transmission, along with the change in the incident of the virus, appropriate adjustments are made in policies that most effectively respond to these changing circumstances.

23. Community social distancing measures need to be adaptive to the local context: when incidence rises in a specific area, such measures need to be imposed; when incidence declines, such measures can be progressively removed. It has been well demonstrated from many places throughout the United States and globally that the imposition of such measures, including the cessation of or restrictions on various activities, early during an increase in COVID-19 incidence effectively reduces transmission and allows more rapid removal of those restrictions thereafter.

24. To reduce the spread of the virus, New York City and New York State implemented significant restrictions on New Yorkers' mobility and activities beginning in mid-March 2020, including directing all residents other than essential workers to stay home unless it

² https://covid.cdc.gov/covid-data-tracker/#trends_dailytrendscases

³ <https://coronavirus.jhu.edu/region/united-states>; <https://covidtracking.com/data/charts/us-currently-hospitalized>

was absolutely necessary to go out, to wear a face covering when out of the home, and closing schools, child care programs, and non-essential businesses. While on premise dining was prohibited at New York City restaurants, take-out and delivery service was permitted. See New York State E.O. No. 202.3.

25. These emergency measures enabled New York City to significantly reduce COVID-19 transmission, protecting people from disease, especially those with increased risk of severe illness, and reducing the likelihood that health care facilities would become overwhelmed with an influx of COVID-19 patients.

26. As case counts and hospitalizations began to decrease in late April and May 2020, New York State set out metrics for reopening, divided the state into regions, and issued a four-phase timeline to gradually enable more contact among people. Regions were all on individualized timelines, depending on their reopening metrics. Furthermore, even where the State allowed for the re-opening of certain businesses, it allowed localities to delay such openings and to maintain additional restrictions. New York City entered Phase 1 on June 8, 2020 and because transmission rates continued to be stable, entered the following phases approximately every two weeks until entering Phase 4 on July 20, 2020.

27. New York City's reopening was more gradual and more fine-tuned given the different risk factors faced in the City as compared to the rest of the state: New York City contends with the highest ongoing risk of "importing" cases, because it is a center for domestic and international travel. There is an inherent risk associated with a large population living in a dense environment, including in high-risk residential congregate facilities and multi-generational housing, that make distancing difficult and increase the likelihood that an increase in

transmission could quickly lead to a resurgence. For these reasons, New York City's reopening was more gradual, cautious and nuanced than the rest of the state.

28. NYC was the last region to be able to initiate reopening and even within the phases, did not open every designated sector that was permitted by, and had opened elsewhere in the State. For instance, while the State allowed playgrounds and indoor and outdoor pools to open on June 11, 2020, the City did not open playgrounds until June 22, 2020, did not open outdoor pools until August 1, 2020, and did not open indoor pools until September 30, 2020. See "Governor Cuomo Announces Five Regions Will Enter Phase Three of Reopening Tomorrow," New York State, June 11, 2020, *available at* <https://www.governor.ny.gov/news/governor-cuomo-announces-five-regions-will-enter-phase-three-reopening-tomorrow>; see also "NYC playgrounds to reopen June 22 as city enters Phase 2 of reopening," N.Y. Post, June 18, 2020, *available at* <https://nypost.com/2020/06/18/nyc-playgrounds-to-reopen-june-22-as-city-enters-phase-2/>; "Mayor de Blasio Announces Reopening of Indoor Pools at 33 Percent Capacity," NYC, September 18, 2020, *available at* <https://www1.nyc.gov/office-of-the-mayor/news/665-20/mayor-de-blasio-reopening-indoor-pools-33-percent-capacity>.

29. Similarly, the State provided for the opening of beaches on May 22, 2020, but the City did not open beaches until July 1, 2020. See "Governor Cuomo, Governor Murphy, Governor Lamont, Governor Carney Announce Multi-State Agreement on Beaches Ahead of Memorial Day Weekend, New York State, May 15, 2020, *available at* <https://www.governor.ny.gov/news/governor-cuomo-governor-murphy-governor-lamont-governor-carney-announce-multi-state-agreement>; "Mayor de Blasio Announces New York City's 8 Public Beaches Will Open for Swimming Starting July 1," NYC, June 24, 2020,

available at <https://www1.nyc.gov/office-of-the-mayor/news/465-20/mayor-de-blasio-new-york-city-s-8-public-beaches-will-open-swimming-starting-july-1>.

30. In New York City, as elsewhere, mitigation measures—primarily physical distancing (also called social distancing), wearing face coverings, and limiting the size of gatherings—successfully reduced the reproductive number and the number of new people infected. These mitigation measures proved to be effective in reducing the spread of COVID-19 for several months. This decrease is attributable largely to these mitigation measures—indeed, there is no other explanation for the significant reduction in disease transmission. However, even when precautions are taken, such as standing apart from others and wearing a face covering, indoor gatherings pose a risk, because none of these measures is perfectly protective. Prior to the local implementation of these measures as set forth in the State and City EOs, COVID-19 spread quickly in New York City, resulting in a surge in the number of individuals hospitalized due to severe symptoms such as respiratory distress requiring supplementary oxygen and in more severe cases mechanical ventilation and other life support.

31. As set forth above, the incidence of COVID-19 began to increase in New York City in September 2020 and continued to rise through the fall. Multiple factors have contributed to this rise, including, but not limited to, reduction in adherence to essential prevention measures, such as mask wearing and limiting gatherings, the resumption of in-person work and in-person learning at universities, the opening of higher-risk indoor activities, such as dining and fitness gyms, the onset of cooler and lower humidity weather, and large increases in incidence in others parts of the United States with importation of cases into New York City.

32. In response to such increases, New York State EO 202.68, issued by Governor Cuomo on October 6, 2020, required enhanced public health restrictions and imposed

mitigating measures in the most affected areas.^{4,5} In particular, EO 202.68 reflects the “community social distancing” approach by imposing mitigation steps in geographic areas with high positivity rates. The magnitude of disparity between the citywide positivity rate and a particular area is a warning sign that transmission in the area is widespread and requires strong control measures to prevent spread beyond that community.

33. In geographic areas in which there is widespread transmission, efforts to minimize the frequency, duration, and intensity of contact within the community through community social distancing can substantially reduce infections, illnesses, and deaths.

INDOOR GROUP FITNESS CLASSES

34. Indoor group fitness classes present a greater risk than other indoor exercise because participants in group fitness classes are not tied to equipment that can be fixed in a location spaced at a distance from other equipment, ensuring social distancing. For that reason, there is a greater risk that the group fitness class participant will come in close contact with other class members for potentially extended periods of time. Indeed, indoor group fitness classes have a likelihood of larger groups of people exercising vigorously next to each other for a prolonged time period (e.g., 30–60 minutes) compared to individual fitness in which individuals may from time to time, but only for brief periods, exercise vigorously next to each other. Given the increased respiratory droplet production during exercise—and potential for broader dispersion with increased respiratory rate and greater volume of inhalation/exhalation—this potential for prolonged close contact makes indoor group fitness classes a higher risk activity. In addition, potentially poor ventilation and generally smaller rooms—as compared to a larger gym space—where indoor group fitness classes are held could increase the likelihood of transmission.

⁴ https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e2.htm?s_cid=mm6915e2_w

⁵ <https://www.who.int/publications/i/item/overview-of-public-health-and-social-measures-in-the-context-of-covid-19>

Two large examples of outbreaks caused by indoor group fitness have been documented in Canada and South Korea. See “At least 61 COVID-19 cases tied to ‘very large’ outbreak at Hamilton spin studio,” CBC News, Oct. 13, 2020, *available at* <https://www.cbc.ca/news/canada/hamilton/spinco-covid-outbreak-1.5759941> (last visited Oct. 21, 2020); “Cluster of Coronavirus Disease Associated with Fitness Dance Classes, South Korea,” Centers for Disease Control and Prevention, *available at* https://wwwnc.cdc.gov/eid/article/26/8/20-0633_article (last visited Oct. 21, 2020).

INDOOR DINING IN NEW YORK CITY

35. Indoor dining, by its very nature, presents two inherent increased risk factors for spreading COVID-19: it occurs in a riskier setting (indoors) and requires riskier behavior (removal of face coverings in order to eat and drink), eliminating one of the few effective tools in preventing transmission.

36. In December, the CDC released guidance specifically to public health authorities and local governments about measures to “address high levels of community transmission and death” from COVID-19 (<https://www.cdc.gov/mmwr/volumes/69/wr/mm6949e2.htm>). The CDC recommends “avoiding nonessential indoor spaces and crowded outdoor spaces.” Exposures at nonessential indoor settings and crowded outdoor settings pose a preventable risk to all participants. Indoor venues, where distancing is not maintained and consistent use of face masks is not possible (e.g., restaurant dining), have been identified as particularly high-risk scenarios.

37. Patrons sitting together at a table are likely within six feet of each other for significant periods of time, and restaurant servers and bussing staff must regularly be close to constantly changing tables of patrons to take orders, refill glasses, and clear plates, exposing the

workers to repeated interactions with un-masked people throughout their shifts. Depending on an establishment's facilities and programming, a restaurant may also be loud, causing patrons to raise their voices to be heard when speaking to companions or ordering food, increasing the risk of droplet production and amount of droplets spread. By dining indoors at restaurants, customers and restaurant workers are likely to be at a greater risk of COVID-19 infection than when dining outdoors or patronizing indoor businesses while wearing a face covering for the entirety of the time in the business. Indeed, a study by the CDC in September found that one of the strongest risk factors for COVID-19 infection in the United States is eating at a restaurant. See Fisher KA, Tenforde MW, Feldstein LR, et al. Community and Close Contact Exposures Associated with COVID-19 Among Symptomatic Adults > 18 Years in 11 Outpatient Health Care Facilities—United States, July 2020. *MMWR Morb Mortal Wkly Rep* 2020; 69:1258-1264, DOI: <http://dx.doi.org/10.15585/mmwr.mm6936a5external icon>.

38. Moreover, as there are over 26,000 permitted restaurants in NYC, guaranteeing compliance with any new indoor dining guidelines for those restaurants that remain open and adequately enforcing those new guidelines are difficult and onerous tasks, requiring vast City resources. A more gradual opening, i.e., by starting with a reduced occupancy rate of 25%, will afford NYC the opportunity to monitor the efficacy of its enforcement efforts and modify them where necessary, while minimizing the risks of indoor dining.

39. In light of the risks associated with indoor dining, and recognizing the economic hardships faced by the restaurant industry, New York City has taken multiple measures to support restaurants. The City's Open Restaurants program provides restaurants with the option to use public streets and sidewalks at no fee after submission of a simple application requiring self-certification to use a sidewalk or curb lane adjacent to their business to increase outdoor

seating. See <https://www1.nyc.gov/html/dot/html/pedestrians/openrestaurants.shtml>. In fact, the City's Open Restaurants Program was extended year-round and made permanent. See <https://www1.nyc.gov/office-of-the-mayor/news/715-20/recovery-agenda-new-york-city-releases-winter-outdoor-dining-guidance>. Additionally, the City issued guidance permitting restaurants participating in the program to provide heating for outdoor dining. *Id.*

40. The Open Streets Restaurants Program closes off dozens of areas around the city to vehicular traffic enabling restaurants to further expand into the street. The City extended time to renew permits, allowing fees to be paid after the public health emergency ends and the Health Department has suspended issuance of summonses and grades during inspections and is focused on education only, allowing restaurants to avoid incurring civil penalties. The City recently expanded the Open Streets Restaurants Program to include additional locations. See <https://www1.nyc.gov/office-of-the-mayor/news/690-20/recovery-agenda-mayor-de-blasio-expands-open-streets-restaurants-more-locations-for>.

CURRENT RESTRICTIONS ON INDOOR DINING AND INDOOR GROUP FITNESS CLASSES

41. Based on my experience with infection control principles and the increase in COVID-19 infection rates in the City as explained above, I believe that it is consistent with New York City's efforts to reduce the spread of COVID-19 for the State to currently restrict indoor dining to 25% capacity⁶ and for the City to continue to temporarily prohibit in-person indoor group fitness classes.

42. This is consistent with NYC's policy of easing physical distancing restrictions gradually and methodically, with close monitoring of outcomes to quickly identify and respond to likely increases in transmission, all with any eye towards reducing restrictions.

⁶Given the current decline in the number of infections and the positivity rate in New York City, it is also consistent with New York City's cautious approach in its efforts to reduce the spread of COVID-19 for indoor dining to be permitted at 35% capacity starting Feb. 26, 2021.

43. Furthermore, the risks associated with indoor dining and indoor group fitness classes are compounded by the fact that it is winter in the New York City, which is associated with more rapid spread of respiratory viruses. During cold weather, people spend more time indoors and the decreased relative humidity of the air enhances transmission of the virus.

44. Moreover, the presence of the U.K. and South Africa strains in New York City and the emergence of other worrisome strains globally makes it even more urgent and important that the City retain essential measures to prevent COVID-19 infections, including restrictions on places where people gather indoors unmasked. The more infections that occur, the more likely it is that the UK and South Africa strains will spread or, similarly worrisome, that other strains will evolve.

45. Transmission of COVID-19 while dining indoors at a restaurant or participating in indoor group fitness classes would not only put those patrons and workers at restaurants and fitness classes at increased risk of infection but also increases the spread of COVID-19 to their communities. If any individual becomes infected with the virus while indoor dining or participating in an indoor group fitness class even if they are not themselves symptomatic, they could potentially spread COVID-19 to others. This spread could expand to different parts of the New York City metropolitan region – including all five boroughs, Long Island, Westchester, Putnam and Rockland counties, and New Jersey and Connecticut – and any other jurisdiction where someone who is infected may travel, thereby jeopardizing the immense progress that New York City, and surrounding cities, counties and states, have made in flattening the COVID-19 curve and decreasing transmission.

46. Finally, there is no evidence that restrictions on indoor restaurant dining lead to a commensurate increase in similarly high risk home-based gatherings. In contrast to home-based indoor gatherings, indoor dining has the added risk of leading to larger, more geographically distributed outbreaks. In a restaurant, people from different social networks and geographic areas (both within the City and outside New York City) gather, permitting infection to spread not between close family and friends, but to others who may come from other geographic areas. Epidemiologists refer to this as “bridging social networks,” a key risk factor in the propagation of epidemics across populations.

47. Every New Yorker (and every American), has been socially, emotionally and economically impacted by the virus and the necessary restrictions imposed to mitigate it. New York City has carefully reopened, balancing the desire and need to return to pre-COVID-19 life, with the reality that the virus is still active, and under the threat of a resurgence. Expanding indoor dining at this time will make an even more precarious situation worse, undermining the months of careful reopening and progress and risk the lives of New Yorkers and the public.

Dated: New York, New York
February 23, 2021

A handwritten signature in black ink, appearing to read 'Jay Varma', written over a horizontal line.

JAY VARMA, M.D.